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Pyridostigmine Bromide

National Cancer Institute

Source

National Cancer Institute. *Pyridostigmine Bromide*. NCI Thesaurus. Code C47697.

The bromide salt form of pyridostigmine, a quaternary ammonium carbamate derivative and a acetylcholinesterase inhibitor. Pyridostigmine bromide binds reversibly to acetylcholinesterase active sites in the peripheral nervous system, thereby preventing the breakdown of acetylcholine. This leads to an accumulation of acetylcholine at cholinergic synapses and facilitates transmission of impulses across the neuromuscular junction. Mediated through muscarinic receptors, this agent increases contraction of bronchial and intestinal smooth muscle and the exocrine glands secretions, while it causes paralysis of the skeletal muscles mediated through nicotinic receptors. In addition, pyridostigmine is used as a reversible blocking agent to prevent organophosphates from binding to the acetylcholinesterase receptors and thereby protect the nervous system from the effects of nerve agents such as Soman.